What is claimed is:

1. A method of dynamically determining a multimedia streaming data rate between multiple points in a communications network in which one or more points send data, servers, and one or more points receive data, clients, the method comprising the steps of:

estimating an amount of data buffered in the network, $BYTE_{BUFFERED}$, at a time a feedback report, FR, is received from the client; and

calculating a streaming data rate set point based on the estimated $BYTE_{BUFFERED}$ and other information from the server.

2. The method of claim 1, wherein the step of estimating $BYTE_{BUFFERED}$ comprises:

determining the difference between an accumulative number of bytes sent from the server and an accumulative number of bytes received by the client;

adjusting the determined difference by an uplink delay compensation value; and

adjusting the determined difference by an estimated amount of accumulative packets lost.

3. The method of claim 2, wherein the uplink delay compensation value is computed as the amount of data sent out by the server during a most previous uplink delay period.

4. The method of claim 2, wherein the uplink delay compensation value is computed from an estimated uplink delay and either a most recent instantaneous receive rate or an averaged receive rate calculated from the information reported in FR.

5. The method of claim 2, wherein the value of the uplink delay can be static or can be dynamically estimated.

6. The method of claim 5, wherein a dynamic determination of the uplink delay comprises the steps of

determining the initial value based on initial round trip time, RTT, estimation;

iterative correction based on measured uplink jitter; and

setting an upper bound and lower bound.

7. The method of claim 2, wherein the packet loss compensation value is computed as the accumulative amount of data bytes lost from the beginning of the streaming.

8. The method of claim 2, wherein the packet loss compensation value is computed from the number of packets lost reported in the FR and either a short term or long term average packet size.

9. The method of claim 1, wherein the other information includes any combination of a pre-adjustment data rate set point, a target byte count, $BYTE_{TARGET}$, a most recent estimated received data rate, a previous server streaming data rate, an excess send rate, a required send rate change and a tuning parameter.

10. The method of claim 9, wherein the step of calculating the streaming data rate set point includes:

calculating the streaming data rate set point as the most recent estimated received data rate plus the required send rate change multiplied by the tuning parameter.

11. The method of claim 9, wherein the step of calculating the streaming data rate set point includes:

calculating the streaming data rate set point as the pre-adjustment data rate set point minus the excess send rate plus the required send rate change multiplied by the tuning parameter.

12. The method of claim 9, wherein the step of calculating the streaming data rate set point further includes imposing an upper and lower bound on the data rate set point.

13. The method of claim 12, wherein the upper and lower bounds imposed on the data rate set point are determined by the server based on a multimedia source encoding range or capabilities of the communications network.

14. The method of claim 13, wherein the upper and lower bounds imposed on the data rate set point are determined on a per stream basis by the server.

15. The method of claim 9, wherein the received data rate is calculated as the bytes received within a period between receiving a last and current FR divided by a FR report interval.

16. The method of claim 9, wherein the required send rate change is calculated as the difference between $BYTE_{TARGET}$ and $BYTE_{BUFFERED}$ divided by a FR report interval.

17. The method of claim 9, wherein the excess send rate is calculated as the previous server streaming data rate minus the most recent estimated received data rate.

18. The method of claim 9, wherein the excess send rate is calculated as the estimated $BYTE_{BUFFERED}$ change within a period between receiving a last and a current FR divided by a FR report interval.

19. The method of claim 9, wherein the tuning parameter is determined based on a comparison between $BYTE_{BUFFERED}$ and $BYTE_{TARGET}$.

20. The method of claim 9, wherein $BYTE_{TARGET}$ is determined by the server based on a multimedia source encoding rate, a client jitter buffer depth, or characteristics of the communications network.

21. The method of claim 20, wherein $BYTE_{TARGET}$ is determined on a per stream basis by the server.

22. The method of claim 9, wherein the tuning parameter is user definable so as to customize the data rate set point calculation process.

23. The method of claim 22, wherein the data rate set point calculation process is customized in order to efficiently utilize an available bandwidth of the communications network.

24. The method of claim 9, wherein the tuning parameter can be determined either statically or dynamically.

25. The method of claim 24, wherein a static determination of the tuning parameter comprises setting the tuning parameter as a predefined set of constants.

26. The method of claim 24, wherein a dynamic determination of the tuning parameter comprises defining the tuning parameter based on a set of buffer threshold values.

27. The method of claim 24, wherein a dynamic determination of the tuning parameter comprises defining the tuning parameter as a function of $BYTE_{BUFFERED}$.

28. The method of claim 1 wherein the method further comprises steps of:

gradually changing the data rate set point by the server if a next FR is not received from the client at an expected time; and

if the server does not receive FR over an extended period of time due to the presence of a long transmission gap, then pausing the streaming until either a new FR is received or eventually a timeout is reached, and when streaming is first resumed after pausing, the streaming data rate set point is calculated as a most recent estimated receive data rate plus a required send rate change multiplied by a tuning parameter.

29. The method of claim 28, wherein the step of gradually changing the data rate set point includes gradually increasing the data rate set point.

30. The method of claim 28, wherein the step of gradually changing the data rate set point includes gradually decreasing the data rate set point.

31. The method of claim 30, wherein the step of gradually decreasing the data rate set point includes:

calculating a decreased data rate set point as an immediately prior data rate set point minus a scaled difference between the prior data rate set point and a minimum data rate set point.

32. The method of claim 31, wherein the difference between the prior data rate set point and the minimum data rate set point is scaled by a rate delay parameter which is an adjustable percentage value defined by the server.

33. The method of claim 1, wherein the communications network utilizes Real-Time Transport Protocol/Real-Time Control Protocol (RTP/RTCP) on top of User Datagram Protocol/Internet Protocol (UDP/IP) for data delivery.

34. The method of claim 1, wherein the communications network is a wireless network.

35. The method of claim 1, wherein the FR may be sent from the client at a fixed interval, T_{FR}, at a random interval having a mean T_{FR} calculated based on a predefined probability distribution function, or upon the trigger of a first data packet arrival a fixed interval, target T_{FR}, after the send time of the last FR.

36. A method for dynamically adjusting a data transmission rate between two points in a communications network, the method comprising steps of:

estimating an amount of data buffered in the network, $BYTE_{BUFFERED}$, at a time a feedback report, FR, is received from a client;

calculating a data rate set point based on the estimated $BYTE_{BUFFERED}$ and other information from a server; and

imposing an upper and lower bound on the data rate set point, to establish minimum and maximum data rate set points, respectively.

37. A method for dynamically adjusting a multimedia data rate between two points in a communications network, the method comprising steps of:

estimating an amount of data buffered in the network, $BYTE_{BUFFERED}$, at a time a feedback report, FR, is received from the client;

calculating a data rate set point based on the estimated $BYTE_{BUFFERED}$ and other information from the server;

imposing an upper and lower bound on the data rate set point, to establish minimum and maximum data rate set points, respectively; and

gradually changing the data rate set point by the server if a next FR has not been received from the client within a specified time period.